fossa, that it cannot be regarded as anything more than a mark of specialisation. It is, in fact, the case that the Macraucheniidae are in many points specialised, while retaining many primitive features of structure.

The chief primitive features are : the non-alternating positions of the wrist- and ankle-bones; these, of course, interlock in the Perissodactyles of to-day and in many extinct families. Then the absence of a diastema in the tooth series, coupled with the presence in *MacraucJienia,* of a complete dentition. The small brain may be referred to the same category. *Macrauchenia* must have been a strange -looking animal. It walked upon three toes on each limb; the skull was Horse -like in general form, but the nostrils are removed to a point about as far back as in the Whales or nearly so, the nasal bones being correspond-ingly reduced. This it is thought argues a proboscis. The humerus is particularly compared by Burmeister[1] to that of a Horse. The radius and ulna though both well developed are fused. The neck is long, and, as in the Camel, the vertebral arteries run inside the neural arches. Since the fore-legs seem to have been rather longer than the hind-legs, though only very slightly, and the neck was long, the animal may have presented some likeness to the Giraffe. It is interesting to note that in the proportions of humerus to ulna this animal is more Lama -like than Horse-like. On the other hand, the proportions of femur to tibia are more Horse-like. The remains of the creature are limited to South America, and to quite superficial deposits. It is evidently a specialised type, and has pursued a course parallel fco that of the Horse. Much nearer to the Horse however, but apparently by convergence only, is the genus *TJioätherium,* usually placed in a separate family, the Protorotlieriidae. In this creature, which has many archaic characters, the toes are reduced to one in each foot. In an allied form, *ProtorotJieriutn,* we have the two lateral toes diminishing just as in *d.nchithe'rium.*

[3] ***tf. Ada, Amd. Caes. Zeop, Oar.*** **xxvii. 1885, p.**

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